A Study of the South Carolina Advanced Placement Program

By the
Education Oversight Committee

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Advanced Placement Program in South Carolina

Overview of the AP Program

In the 1950s, the College Board developed the Advanced Placement (AP) program to offer high school students the opportunity to complete college-level studies while they are still in high school. The courses initially offered through the program were English and United States History, but today the program offers 32 courses. AP courses are available in most disciplines and the arts, and a new course in World History will be available in 2001-2002. (A full list of course offerings is found in Appendix A.) Cost for the examination for each course has risen steadily from $40.00 in 1985 to $68.11 for the examinations given in 2001.

The College Board determines the curriculum for each course and prepares the examination. Examinations consist of multiple choice items and free-response essays. The examinations are given only during a two-week period in early to mid-May. Readers trained by the College Board are assembled each June to read and score the free response questions. The multiple-choice items are scored separately by machine. Depending on the test, the different sections are then weighted and a composite score calculated. The composite score is converted into an AP grade ranging from 5 to 1, with 5 being “extremely well qualified”, and 1 being “no recommendation.”

Students who earn a 3-5 on the various AP examinations can earn college credit if the institution of higher learning that they choose to attend accepts AP courses for credit. AP students can request at the time of the examinations for the College Board to report their scores to specific colleges and universities. The College Board also sends a report of all student scores to the high school administering the AP examination. (The list of courses accepted by South Carolina institutions of higher learning can be found in Appendix B).

Overview of the South Carolina Program

For many years most South Carolina students did not have the opportunity to take these courses due to the high cost of the tests, which had to be borne by the student or school, and an inadequate supply of trained teachers. As part of the Education Improvement Act of 1984 the state of South Carolina initiated a funding program that encouraged schools to offer the various AP courses. Beginning with the 1984-85 school year, an appropriation for the AP program has paid for AP tests taken by students and provided resource materials for both students and teachers. The appropriation also has funded institutes at in-state institutions of higher learning for teachers on how to teach specific AP courses. South Carolina was the first state in the Southeast to establish a state funded AP program.

Since the beginning of the 1984-85 school year, each school district in South Carolina has been required to provide AP courses in all secondary schools if the school enrolled

an adequate number of academically talented students to support the courses. In 1997 the State Board of Education amended the regulation to require all secondary schools whose organizational structure includes grades 11 and 12 to offer at least one AP course each year.

In an effort to understand fully the effects of the program on the educational climate in South Carolina, the Education Oversight Committee authorized a study of the AP Program. Through an analysis of statistical data from the College Board from 1984 to the present; interviews with professors from four institutions of higher education who have conducted AP institutes for South Carolina teachers; interviews with school and school district personnel from around the state; interviews with State Department of Education personnel; information from AP activities in other states; and, statistical data on appropriations, this study provides information and recommendations in six areas: State Focus; Student Participation; Student Achievement; Professional Development for Teachers; Curriculum Issues; and, Funding.[1]

State Focus

One goal of the Education Improvement Act of 1984 was to increase the academic rigor of courses taken in South Carolina's public high schools. In pursuit of this goal, the General Assembly approved the implementation of the Advanced Placement Program in South Carolina. The program, through State Board of Education regulation, requires all high schools in South Carolina to offer at least one AP course each year. There is, however, no stated goal in the law or by the State Board of Education on either student participation or student success rate. Interviews with school and school district personnel suggest confusion regarding the state focus. A majority of the school district personnel were interested with increasing the number of students taking AP courses, but school personnel were far more interested in the student success rate.[2]

School counselors often hold the key to student enrollment decisions regarding AP courses. Several teachers stated that counselors at their school sometimes discourage students from taking AP courses because they believe the students will not score a 3 or better on the examination. The teachers also stated that counselors have discouraged students from taking more than 2-3 AP courses in a given school year despite research indicating that the more AP courses students take over their high school career, the more likely they are to score 3 or better on AP examinations.[3] Both of these attitudes affect the enrollment in AP courses and prevent students from experiencing the academic rigor of the AP program. School and school district personnel indicated that either a legislative or State Board of Education statement outlining the specific goals of the AP program would clarify for all school personnel the focus of the program.

Several Southeastern states have set goals since 1997. Virginia, North Carolina, and Texas began incentive programs designed to increase student participation, especially participation by minority students. The results in all three states have been impressive with increases in student participation ranging from 22.8% in North Carolina to 37.6% in Texas, and increases in the number of examinations taken ranging from 31.2% in North Carolina to 46.3% in Texas. In all three states, the percentage rate of students passing

exams dropped 3.3% or less.[4] (Additional information on student participation in these states can be found in the following section.)

Student Participation

For the most part, student participation in the AP program has risen steadily in South Carolina since 1984. Prior to the adoption of EIA in 1984, South Carolina public school students took 3,046 AP examinations in the spring of 1984. The number of AP examinations taken by South Carolina students in the spring of 1985 (6,262) more than doubled the previous year's total. Since 1985 the number of examinations taken increased each year between 1985-1988, fell slightly in 1989, then increased steadily from 1990 to a peak of 14,975 in 1999. The number of examinations fell slightly in 2000 to 14,560. (Preliminary numbers for 2001 indicate that the state paid for 14,846 examinations, a slight increase.)

The number of students participating in the program since 1984 also has increased steadily following the same pattern as the number of examinations taken. In 1984, 2,400 South Carolina public school students took at least one AP examination. In 1985, 4,670 public school students took at least one AP examination, and the number grew to 6,254 in 1988 before falling to 6,125 in 1989. The number of students taking at least one AP examination began to increase again in 1990, reaching 9,036 in 1996. The number of students taking at least one AP examination fell slightly in 1997 to 8,962, then climbed again to a peak of 9,402 in 1999. 9,130 students took at least one test in 2000. (Preliminary numbers for 2001 are not yet available.)

Number of AP Tests Taken & Percent Scoring 3 or Higher (Qualifying)
(National & State) 1984-2000

YEAR	National		(Mean	Qualifying	South Carolina		(Mean	Qualifying
	Students	Exams			Students	Exams		
84	No Data Available			69%	2,400	3,406	No Data	55%
85				66%	4,670	6,262		39%
86	175,689	238,507	(3.05)	67%	5,181	7,152	(2.51)	48%
87	200,228	278,037	(3.04)	69%	5,889	7,980	(2.60)	51%
88	No Data Available				6,254	8,767	No Data	53%
89					6,125	8,521		56%
90	257,625	378,106	(3.03)	66%	6,526	9,331	(2.72)	55%
91	281,628	415,336	(2.97)	64%	6,598	9,657	(2.86)	54%
92	307,073	453,524	(3.01)	64%	7,000	10,205	(2.98)	55%
93	No Data Available			63%	7,523	11,105	(2.70)	53%
94	368,780	558,330	(3.02)	65%	8,140	12,125	(2.77)	55%
95	407,030	628,393	(2.93)	61%	8,514	13,124	(2.74)	50%
96	432,751	673,775	(2.95)	62%	9,036	13,895	(2.71)	51%
97	467,133	734,590	(2.98)	63%	8,962	14,169	(2.67)	53%
98	509,895	811,239	(3.13)	63%	9,269	14,921	(2.73)	54%
99	568,021	923,039	(3.10)	62%	9,402	14,975	(2.86)	55%
00	617,547	1,020,016	(2.97)	62%	9,103	14,560	(2.77)	55%

No data is available for 1984, 1985, 1988, and 1989 due to a fire at College Board warehouse

School participation in the AP program in South Carolina is widespread. Participation rates have remained above 90% the last several years with almost 92% of South

Carolina's public schools participating in the AP program in 2000. This is the highest percentage participation rate of any state in the Southeast and fourth best in the nation behind Delaware, Connecticut, and New Jersey. Nationally, 9,665 of the 16,171 public schools (59.6%) participated in the AP program in 2000.

There also has been growth in the number of different AP examinations taken by South Carolina public school students. In 1986, South Carolina students took examinations in 19 of the 24 examination areas. As the College Board has increased its offerings, South Carolina students have taken additional examinations. In 2000 South Carolina students took AP examinations in 31 of the 32 offered areas. The accompanying table shows the tests taken most often by South Carolina students. [5]

MOST FREQUENTLY ADMINISTERED AP EXAMINATIONS IN SOUTH CAROLINA, 1985-2000

	Year													
Subject	85	86	87	90	91	92	93	94	95	96	97	98	99	00
English Lit	2762	1939	2221	2391	2314	2465	2662	2574	2762	2775	2760	2778	2604	2473
US History	2586	1565	1937	1978	2037	2165	2302	2579	2586	2707	2482	2701	2598	2655
Calculus AB	2303	1281	1601	1837	1787	1899	2161	1989	2303	2300	2390	2298	2031	1921
Biology	1217	779	651	728	770	918	870	1131	1217	1323	1279	1291	1265	1190
English Lang	*----	157	198	282	350	390	408	776	727	980	1103	996	1022	1058
Chemistry	*----	479	391	365	396	391	527	552	640	691	613	628	725	581
European Hist	*----	386	357	496	454	446	472	531	566	574	535	466	535	521
Gov/Politics	*----	*----	68	205	195	245	314	354	496	518	626	847	661	540

**Denotes College Board's Loss of Data for 1985, 1988 & 1989*

Factors Inhibiting Growth in the AP Program

Despite the high participation rate by high schools in South Carolina and overall growth in student participation and tests taken, there are several factors affecting growth in the AP program. First and foremost is the low participation rate of African American students in the program. In 1986, African American students comprised 11.2% of the students participating in the AP program, but took only 10.1% of the examinations. In 2000, African American students made up approximately 40.2% of high school students but constituted 15.35% of students participating in the AP program taking 13.3% of the examinations. In comparison, white students were 80.1% of the participants in 1986, taking just over 81% of the examinations, and were still 76.5% of the participants in 2000, taking 77.5% of the tests. Furthermore, fewer African American students took fewer tests in 2000 than in 1999. The participation rate fell 1.2% and the number of examinations fell 4.6% in 2000.[6]

The growth rate in both the number of examinations and the number of students taking at least one AP examination in South Carolina was rapid during the initial years of the EIA AP initiative. Conversations with school personnel suggest the decline may be attributed to several factors: competition from the International Baccalaureate (IB) Program; the opportunity for students to earn college credit directly from in-state colleges, universities, and technical schools, known as dual credit; school staffing concerns; student and parental attitudes; and, school personnel not promoting the AP program or challenging students to take the more rigorous courses.[7]

The IB program and the AP program often compete for the same students. IB is a high school program that provides a rigorous course of study and awards an IB diploma to students who complete the program and pass the examinations required at the end of each IB course. IB, however, provides no college credit for the student. There were seven IB high schools in South Carolina in 1999-2000. The number of IB schools in South Carolina will increase to 10 by 2001-2002, and other high schools are considering applying or are in the application process for the program.

While it is possible for students to take part in both programs, AP and IB examinations are very different, and schools must do an excellent job of preparing the students for the different tests. Ironically, in South Carolina the number of AP tests taken in IB schools often increases when the IB program begins, but the success rate on the AP examinations for most IB schools drops. Because the IB and AP examination styles differ, many students may have trouble adjusting to the different examination styles unless teachers spend enough time preparing their students in how to write for each examination.

Implementation of the IB program, however, does not always negatively impact the AP program. In recent years, Northwestern High School in Rock Hill has successfully implemented the IB program and maintained a strong AP Program with high achievement. Teachers and administrators from the school both cite the student registration system at the school, a system that includes direct talk with students and parents alike about the rigor of both programs and the benefits of taking rigorous courses, as a major factor in the success of both programs. Students who choose to take either the IB or AP programs are well informed about the rigorous nature of the classes before they enter the programs.[8]

IB SCHOOLS PERFOMANCE ON AP TESTS IN SC
1995-2000

High School (1st Year IB Testing)	95 Exams/ % Passing	96 Exams/ % Passing	97 Exams/ % Passing	98 Exams/ % Passing	99 Exams/ % Passing	00 Exams/ % Passing
Northwestern (97-98)	227/ 66.1	113/ 55.8	226/ 54.4	438/ 41.3	276/ 57.6	178/ 71.9
Southside (89-90)	211/ 50.2	372/ 47	326/ 57.1	434/ 48.8	347/ 55.6	431/ 47.8
Hilton Head (97-98)	86/ 50	88/ 47.7	79/ 63.3	131/ 61.1	174/ 58	266/ 47.7
Wilson (98-99)	59/ 15.3	45/ 40	73/ 26	52/ 40.4	59/ 33.9	81/ 33.3
Beaufort (98-99)	37/ 37.8	61/ 55.7	136/ 48.5	169/ 34.3	249/ 24.1	221/ 44.5
Socastee (98-99)	112/ 39.3	135/ 47.4	135/ 54.8	110/ 52.7	110/ 50	78/ 48.7
Battery Creek (96-97)	86/ 50	88/ 47.7	79/ 63.3	131/ 61.1	249/ 24.1	166/ 16.9

Another factor affecting enrollment in the AP program is the dual credit program, college credit courses offered by technical schools and in-state colleges and universities in the local high schools. Dual credit courses provide a credit, such as English IV, towards graduation from high school, but also provide the student with college credit or hours for a college course, such as English 101, at the same time.

Many of the state's 54 public and private colleges and technical schools offer dual credit courses. The University of South Carolina PACE Program offers several courses, such as Psychology 101 or American Government 201, for college credit on high school campuses. Courses offered through the PACE program have exams throughout the course and a final exam developed by the University of South Carolina that validate that the high school student has experienced the same rigor of course study that a college student would have experienced.

Enrollment in PACE courses increased steadily between 1991 and 1998, from 613 students to 1,292. Enrollment dipped slightly in 1999 to 1,263 students, then fell to 1,048 students in 2000 when the University of South Carolina began requiring students taking PACE courses to score either 1100 on the SAT or have a "B" average before they could enroll.[9]

Other colleges (USC-Sumter or Midlands Technical College) offer courses like English 101, Sociology 101, or History 201 on high school campuses. According to school personnel, many students prefer to take these dual credit courses because they can earn the credit without having to take a college developed end of course examination. A student earns college credit by merely passing the course with a "C;" there is no standard exam to validate that the high school student taking English 101 has experienced the same rigor that a college student in English 101 would have experienced. Credit for these courses will not transfer to out-of-state institutions of higher learning, but AP credits or credits earned in PACE courses will.[10]

A third factor affecting the growth of the AP program is the inability of many high schools to offer AP courses because of the relatively high cost of offering AP courses. Many smaller high schools lack enough staff to offer AP courses because enrollment in AP classes is usually small. School administrators are forced to choose between offering an AP class for 6 to 10 students or offering a non-AP class for 25 to 30 students. In 1990-91, the General Assembly began appropriating funds to help smaller schools offer "singleton" classes - one AP class of less than 10 students. The appropriation is used to provide additional staffing for the AP class without affecting the regular class offerings at the school. Even with this special appropriation, many of the smaller high schools have been unable to offer singleton classes due to a lack of student interest or the inability to find qualified teachers to teach the AP course. State Department personnel stated that several times the appropriation of $500,000 for singleton classes has not been fully spent, and the unspent funds then have been channeled into the EIA Building Fund as prescribed by law.[11]

A fourth factor also affects the growth of the AP program. Despite the existence of a regulation requiring all South Carolina public schools to offer at least one AP course

each year, some schools have failed to offer any AP courses for several years. In 1998, sixteen South Carolina high schools did not offer AP courses. The number increased to 19 in 1999, then dropped back to 16 again in 2000. Some of the schools not offering AP courses have very small student bodies. Other schools have not offered AP classes because of low expectations for students. Still others participate only in the dual credit program at the direction of the district school board and administration.[12]

Distance learning is one way to address the shortage of qualified teachers and/or the existence of a small student body; a teacher at one site can teach students at other sites throughout the state by means of interactive video-conferencing or online instruction. Distance learning was provided in South Carolina and other states for many years through the Satellite Educational Resource Consortium, or SERC. However, the cost of satellite time increased in the early 1990s and use of SERC declined. The development of the Internet and video-conferencing via cable television offers other uses of technology as a means of expanding student participation in the AP program. The South Carolina State Department of Education presently is participating in the AP Nexus program. AP Nexus is a consortium including South Carolina, Georgia and Tennessee, working with the Southern Regional Education Board (SREB). Through a federal grant program designed to increase the number of low-income students taking AP examinations, AP Nexus expects to increase the number of low-income students taking AP classes over the three year period 2000-2003. AP Nexus uses laptop computers and online services to bring the courses to low-income students. South Carolina expected to reach a minimum of 25 additional students during the 2000-2001 school year.[13]

Video-conferencing capabilities, which use one teacher to teach students the same AP course at different campuses, are another means to address small student enrollment and/or teacher shortages for AP courses. In 1998, Sumter School District Two received a grant to provide video-conferencing capabilities between the district's two high schools, Lakewood and Crestwood. Video-conferencing has allowed Crestwood and Lakewood to offer AP Calculus and AP United States History after being unable to offer either class for several years because of low enrollment and funding concerns.[14]

According to interviews with school personnel, student attitudes also affect the number of students taking AP courses. Teachers and guidance counselors stated that many students are unwilling to accept the challenge of the AP courses, even though a recent study by the United States Department of Education has shown that students who take at least one AP course are more likely to finish college, because AP courses often require independent study.[15] Students also are concerned they will do poorly in the course itself and the resulting lower grade will damage their grade point average. Several teachers expressed frustration with this particular student attitude. The teachers also stated that they have seen an increase in the number of parents expressing the belief that AP courses are too demanding.[16]

As stated earlier, several Southeastern states have encouraged schools to increase participation in the AP program. Three years ago Virginia began an initiative to increase student participation, especially minority participation. In 1997, 18,998 students took

31,871 AP exams. By 2000, the number of exams taken by Virginia students had increased 39.9% to 44,582 while the number of students participating in the AP program increased 33.6% to 25,392. The large increase in student participation did not seriously reduce the student success rate; student achievement only slightly decreased from 64.5% in 1997 to 61.6% in 2000. Representatives from the Virginia Department of Education attributed the lack of a large decline to the increased rigor the academic standards instilled in the curriculum.

REGIONAL COMPARISON OF AP DATA, 1998-2000

STATE	YEAR	%age of Public High Schools Participating in AP	#Students	# Exams	Passage Rate
Alabama	98	44.2	4972	7275	54.0
	99	43.3	4727	6830	55.1
	00	37.9	4230	6142	57.4
Arkansas	98	31.9	2465	3724	52.5
	99	31.0	2967	4567	52.3
	00	32.2	3360	5240	52.0
Florida	98	83.0	31758	53976	53.4
	99	82.3	34615	59762	54.9
	00	81.7	37971	65634	55.7
Georgia	98	79.2	13362	19978	56.3
	99	77.0	15209	23975	54.3
	00	80.2	16269	25711	55.9
Kentucky	98	64.2	4818	7195	46.1
	99	67.2	5315	7864	46.2
	00	67.9	5964	9069	47.3
Louisiana	98	20.3	1622	2354	61.2
	99	20.3	1659	2424	61.0
	00	20.1	1706	2436	60.8
Mississippi	98	37.3	1878	2687	40.4
	99	36.1	2215	3161	34.4
	00	37.6	2005	2707	40.9
North Carolina	98	87.0	15677	24767	58.1
	99	88.9	17941	30186	54.2
	00	87.4	19249	32482	55.4
South Carolina	98	92.0	9269	14921	54.2
	99	90.4	9402	14975	55.0
	00	91.9	9130	14560	55.2
Tennessee	98	51.9	6088	9130	61.4
	99	53.1	6544	10161	60.4
	00	50.3	6711	10385	62.1
Texas	98	60.5	40104	66968	56.4
	99	63.8	46810	80356	54.7
	00	65.8	55176	97965	53.1
Virginia	98	82.1	20145	33812	65.2
	99	82.7	24647	42628	62.0
	00	85.9	25392	44582	61.6

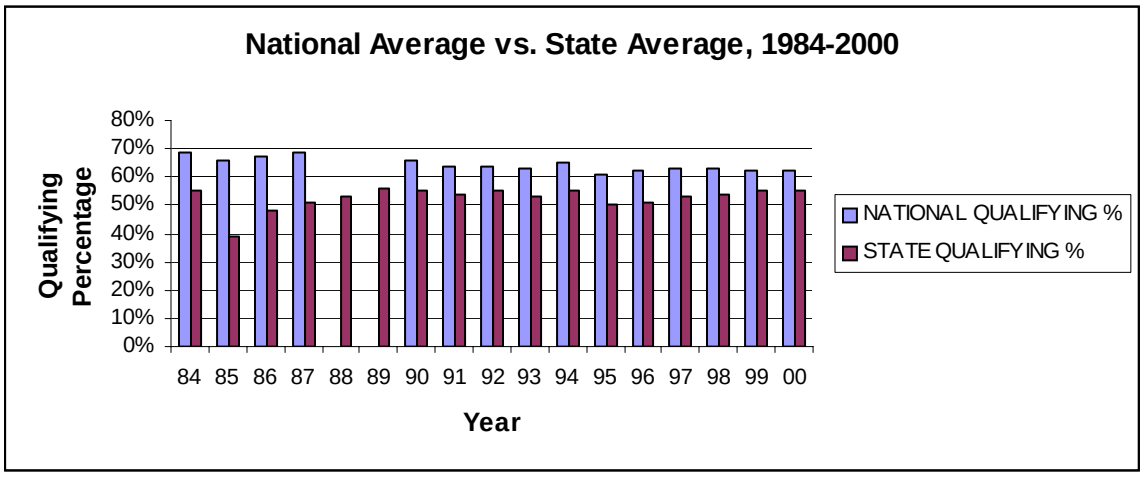
North Carolina also has advocated increased participation in recent years. In 1998, 15,677 students took 24,767 AP exams. In 2000, 19,249 students took 32,482 exams, an increase of 22.8% students and 31.2% exams. Again, success rate declined very little compared to the large growth in student participation; the pass rate in 1998 was 58.1% and in 2000 was 55.4%.

Texas, a leading education reform state since the early 1990s, also has pushed for increased participation. In 1998, 40,104 students took 66,968 exams. Those numbers grew to 55,176 students taking 97,965 exams in 2000, an increase of 37.6% in student participation and 46.3% in the number of exams taken. Student success rate was affected only slightly, from 56.4% passing in 1998 to 53.1% passing in 2000. Individuals at the Texas Department of Education indicated that they were planning to continue to encourage increased participation in the future, but that the state was now going to also focus on increasing the passing rate of students.[17]

Student Achievement

While student participation and the number of examinations taken has increased over the last fifteen years in South Carolina, student success on AP examinations has fluctuated during the same period. In 1984, students scored a 3 or better on 54.73% of the examinations taken. In 1985, the first year of the EIA funded initiative, the pass rate fell to 39.7%. The drastic reduction was probably the result of a lack of understanding on the part of teachers and students alike about the AP program and what was necessary to prepare students for the examinations. With the introduction of teacher institutes during the summer of 1985 and an increase in the general knowledge of the AP program, student success increased to 47.6% in 1986, and continued to climb, reaching 56% in 1989. Beginning in 1990, scores began to fluctuate, falling to 50.5% in 1995, and slowly rising to 55% in 1999. The success rate held steady in 2000.

During the same period, the success rate in South Carolina has been below the national average, though the gap has decreased in recent years. In 1984, 69% of students nationally scored 3 or better on AP examinations. Over the last sixteen years, the percentage of passing grades nationally has fluctuated between 60.53% and 67.05%, with 61.91% scoring 3 or better in 2000. Critics of AP performance in South Carolina state that the gap between national and South Carolina examination pass rates has disappeared because national scores have dropped, not because South Carolina has made significant gains. Advocates of the AP program in South Carolina believe South Carolina scores are approaching the national average because of actual improvement in student performance, not a reduction in student performance nationally.



An extension of the comparison of state scores to the national scores can be conducted in individual courses. In most courses South Carolina's percentage of students passing is below the national average, but each year South Carolina students score above the national average on several examinations. In 2000, South Carolina students had a higher passing average on the courses Art History, Studio Art – General, English Language and Composition, European History, German Language, Latin: Literature, Physics C (Electrical and Mechanical), and Spanish Literature. Troubling though, is the historically low pass rate for South Carolina students taking the AP United States History examination. In 2000, only 1,085 (less than 41%) of the 2,655 students taking the examination received a grade of 3 or higher. Improvement in all AP examination areas would raise the overall state pass rate, but improvement in the pass rate for courses such as AP United States History would have a greater impact because it is one of the examinations taken most often by South Carolina students.

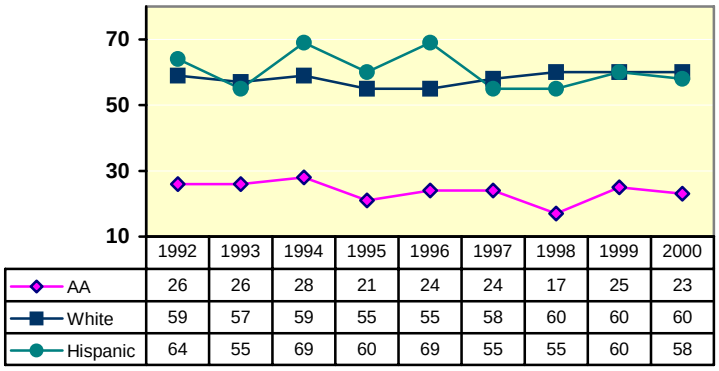
2000 QUALIFYING NATIONAL AND STATE PERCENTAGES

Exam Code	Exam Name	National	State
	Total Exams	62.1	55.2
07	US History	51.6	40.9
13	Art History	65.9	79.0*
14	Studio Art-Drawing	73.7	72.0
15	Studio Art-General	59.4	62.3*
20	Biology	62.9	62.0
25	Chemistry	56.8	52.0
31	Computer Science A	59.0	49.8
33	Computer Science AB	72.8	67.5
34	Microeconomics	58.4	43.3
35	Macroeconomics	57.5	31.1
36	English Language	60.4	65.0*
37	English Literature	66.5	63.7
40	Environmental Science	56.0	53.6
43	European History	68.2	71.6*
48	French Language	51.6	23.8
51	French Literature	62.7	60.0
55	German Language	57.3	59.3*
57	US Government &	58.5	46.1
58	Comparative G & P	59.5	31.6
59	International English	N/A	N/A
60	Latin: Vergil	56.0	20.0
61	Latin: Literature	58.3	100.0*
66	Calculus AB	62.6	59.6
68	Calculus BC	77.9	73.1
75	Music Theory	67.0	62.8
78	Physics B	57.0	43.3
80	Physics C (Mechanics)	69.3	67.5
82	Physics C (E & M)	64.4	64.7*
85	Psychology	69.5	68.6
87	Spanish Language	80.4	29.1
89	Spanish Literature	73.7	100.0*
90	Statistics	53.3	42.4

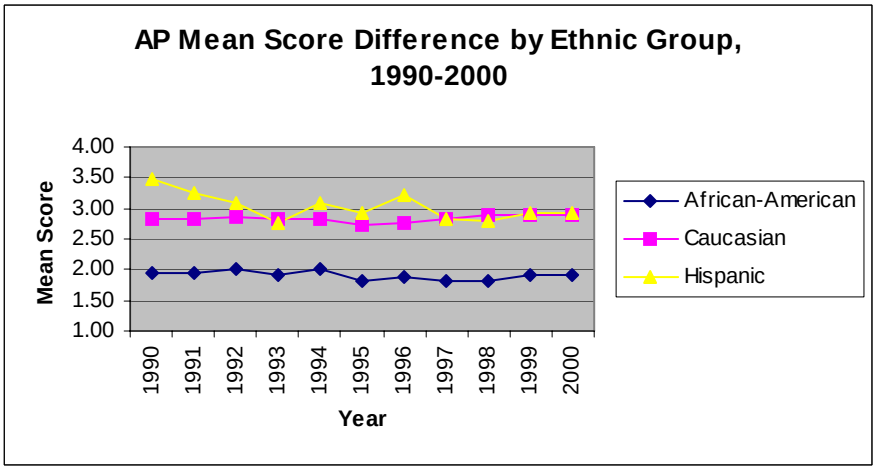
** Indicates SC Qualifying Percentage above National Qualifying Percentage*

More troubling than the plateau in the success rate or the low scores for AP United States History is the discrepancy in scores between different student groups. In 1986, the mean score for South Carolina public school students was 2.51. For African American students, who took slightly more than 10% of the AP examinations that year in South Carolina, the mean score was 1.72, compared to 2.60 for white students who took 81% of the examinations. The mean score for African American students peaked at 2.01 in 1995, but has since dropped to 1.91 in 2000. African American students still take only 13.31% of all examinations taken. White students, on the other hand, took 74.7% of the examinations in 2000, and their mean score was 2.90. While the mean score for both groups was better in 2000 than in 1986, the discrepancy between scores from the two groups has grown larger, not smaller. In comparison, the mean score for Hispanic students has exceeded or shown little or no difference from the mean score for white students over the same period.

AP Composite Score Difference by Ethnic Group
(Percentage of Grades 3 or Higher)

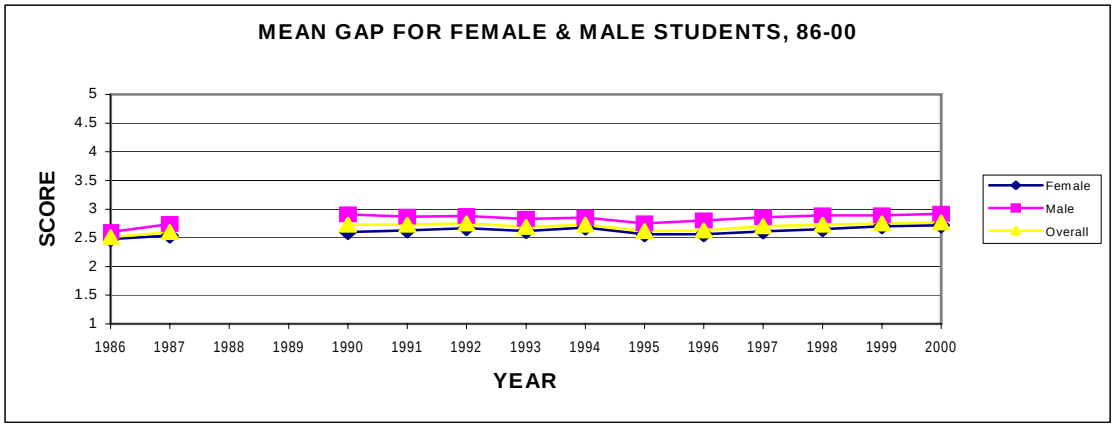


	1992	1993	1994	1995	1996	1997	1998	1999	2000
AA	26	26	28	21	24	24	17	25	23
White	59	57	59	55	55	58	60	60	60
Hispanic	64	55	69	60	69	55	55	60	58



The gap between the mean score of males and females has also increased over time. In 1986, males took just over 45.5% of the examinations, with a mean score of 2.60. Females had a mean score of 2.48. In 2000, however, males took only 43.34% of the examinations, with a mean score of 2.92, while females had a mean score of 2.72. Black males have increased slightly in the percentage of examination takers, increasing

from 3.34% in 1986 to 3.86% in 2000. Black females comprised 6.22% of examination takers in 1986, and 8.18% in 2000. The mean score for black males was 1.73 in 1986, and has increased to 2.01 in 2000. Black females have made smaller gains, from 1.76 in 1986 to 1.88 in 2000. However, the gain in mean score and in the percentage of test takers is negligible over the life of the EIA initiative.



School size and poverty are other points of comparison. For the most part, smaller schools tend to have lower achievement rates, if they are able to offer AP classes at all. Roughly one-fifth of all schools in the High School League A division (the smallest 48 high schools in the state), offered no AP courses over the last six years, and most of those who offered courses had passing rates of less than 15%, though some rated as high as 55%. Larger schools, especially in the AAAA division, (the 48 largest high schools in the state), have success rates of 60% and higher and offer several sections of numerous courses. In addition, schools in the ten school districts with the highest student poverty factor had the lowest pass rate success, usually less than 20%, while schools in the school districts with the lowest student poverty factor had pass rates as high as 80%. According to the professors who have offered AP institutes, many of the schools in the poorer school districts lack sufficient instructional materials to adequately prepare their students for the test. Coupled with the high teacher turnover rate in many of the schools in the poorer school districts, the lack of instructional materials leads to lower student success on the AP examinations.[18]

AP courses are open to all high school students, regardless of grade level, but seniors have taken more than 50% of the examinations since the EIA funded initiative began. In 2000, seniors took 53.4% of the examinations, while juniors took 38.7% of the examinations. Seniors have a slightly higher mean score than juniors, 2.84 to 2.76 in 2000, but grade level achievement often varies between courses. Seniors tend to do better in Computer Science and European History, but juniors do better in United States History and Calculus. In most courses, however, the difference between grade level mean scores is insignificant.

One fact which supports students taking multiple courses during their high school career is that students who take two or more AP classes appear to earn a grade of 3 or higher more often than students who take only one AP class during their high school career.

Using data from the 2000 administration, 4,547 students took multiple AP tests during 2000 and/or during the two previous years. Of those, 3,537, or 77.8% received a grade of 3 or higher on at least one AP examination taken. In contrast, of the 4,583 students who took only one AP examination in 2000 or the previous two years, only 37.4% passed the examination with a 3 or better.[19]

Professional Development for Teachers

Professional development is an integral part of a successful AP program. Because AP courses have a set curriculum and evaluation process, it is imperative that teachers of AP courses have the necessary background to teach the class. Teachers need background in three areas: subject matter, pedagogical strategies, and specific information on the particular test itself.

The College Board recognizes the importance of professional development and provides one-day workshops in South Carolina each year to address pedagogical strategies and information on specific AP tests. The workshops are offered each fall in Spartanburg and again in the winter, usually in Columbia. They currently cost schools and/or school districts who are members of the College Board $60.00 per teacher, and $70.00 per teacher for schools and/or school districts that are not members of the College Board. The cost of attending the workshops is borne solely by the school or school district. One primary focus of each workshop is training teachers how to prepare students to answer the essay questions given on each AP exam. Student essays from AP tests taken the previous year are distributed and an explanation on how the essays were graded is given. Teachers in attendance usually are provided an opportunity to evaluate additional essays and compare their ratings with those assigned by AP readers the previous year.

Because the essay portion of an AP exam can determine up to one-half of the student's AP score, it is vital that teachers understand how the AP grading system works and how to teach the students to write successfully on the AP exam in question. AP essay questions require students to evaluate, analyze, and interpret information. They are not questions that only require factual knowledge, but are questions that expect the student to take a position and defend it. The defense of the position must be based on facts and/or information relevant to the question. Answers that do not take a position on the question asked and contain only content relative to the question are given a lower score than answers that have taken a position and perhaps have less specific content.[20]

The College Board workshops also provide important information on the specifics of the AP course, such as whether any changes in the grading format or the course content are expected. Oftentimes the development of a new course by the College Board will require the content of an existing course to be modified. Unless a teacher is familiar with the details of the AP course he or she teaches, the students will not be as successful as they could be.

While the College Board provides some pedagogical development and detailed information on the specifics of the AP courses, they leave the remainder of professional

development to the individual teacher, school, or state. Currently, the South Carolina Board of Education requires teachers to be "endorsed" to teach an AP course. To be "endorsed," a teacher must attend an approved graduate level institute sponsored by the South Carolina Department of Education or receive permission to attend an out-of-state institute. Teachers who have earned a doctoral degree in the subject matter they will be teaching or have a significant number of undergraduate and/or graduate hours in the subject matter may apply for endorsement status based on their educational qualifications.

AP institutes are held at various institutions of higher learning located throughout the state. To offer an institute, a professor at a college or university submits a proposal in response to an RFP (request for proposal) issued by the State Department of Education. The proposal must include a course syllabus, cost of offering the program, and information on the individuals conducting the institutes. The proposal must be endorsed by an institution of higher learning through which graduate credit will be awarded. The awarding of institutes is limited to the availability or interest of college or university faculty. If no one submits a proposal to offer an institute in a specific AP course, such as AP Macroeconomics, the institute is not offered, regardless of how many teachers may need endorsement to teach the course. The same institutions endorse the same institutes year after year - Clemson sponsors United States History, Francis Marion Calculus, etc.[21]

Participants evaluate each institute using the evaluation form approved by the institution of higher learning hosting the institute. No follow-up evaluation is conducted, and in most instances there is no continued formal contact between the instructors for the institutes and the teachers who attended. Several institute professors indicated that former students remain in contact them or with other former institute attendees, but not on a formal basis. The 2000 institute for English Literature and Composition is one exception. The professors of record for the institute offered at Clemson created a web site where students and professors have continued to discuss the various topics presented during the institute. Topics which were overlooked during the institute but which have surfaced during the school year have been discussed through the web site and have provided the teachers with vital knowledge to help students succeed on the AP examination.[22] Despite a lack of formal follow-up after AP institutes, teachers speak highly of the institutes and express the belief that the institutes are vital to a successful AP program.[23]

South Carolina has no regulation regarding professional development for AP teachers in subject matter. Teachers are chosen by the building principal to teach AP courses. While most principals strive to choose teachers with a content background in the AP course they teach, it is not out of the ordinary for a teacher to be assigned a course for which they have little or no background. A social studies teacher may be chosen to teach AP United States History but have little background in United States History, having majored in geography in college. An English teacher who concentrated his or her course work in college on American literature and had taught American literature in high school might not have the background needed to teach AP English Literature and Composition or AP English Language and Composition.[24]

When these situations occur, the teacher must take the initiative to obtain the necessary content background needed to help the students succeed, and many factors may prevent that teacher from pursuing the needed content. Attendance at an AP institute will not provide sufficient background knowledge in the content of the AP course and if a teacher chooses not to attend a content course or is unable to attend one, the teacher will struggle to provide the students with the content material they will need.

Providing for content-based endorsement is one step needed to improve the professional development of AP teachers. Professors of institutes contacted for this study felt that requiring teachers who were endorsed to teach AP courses to attend a 2-3 day refresher institute every 3-5 years would keep teachers up-to-date on curriculum and other matters.[25]

Significant efforts will be needed to prepare new AP teachers to take the place of retiring AP teachers. No data are available on the number of AP teachers nearing retirement age or having 28 years of experience.

Curriculum Issues

Several curriculum issues presently are impacting student participation and achievement in the AP program. One issue, the impact of the IB program on the AP program was discussed above. Simply stated, implementation of the IB program at a high school can have an adverse affect on the AP program, but it need not happen. With careful planning and increased awareness on the part of the teachers, parents, and students that the programs require different student preparation for success, the two programs can coexist and provide students with useful educational experiences.

One curriculum issue which is a concern not only in South Carolina but nationwide is the effect of block scheduling on AP courses and student achievement on the AP examinations. Many high schools in South Carolina altered their schedule in the last several years from a traditional six period day to a block schedule. Two types of block scheduling dominate South Carolina high schools - A/B and 4 X 4. In both schedules, students attend four classes per day. In A/B, students alternate between four different classes on alternate days, while in 4 X 4, students attend the same four classes every day for half of the year. Four classes are taken in the fall semester, and four new classes are taken in the spring semester. Under both schedules, the amount of time students spend in each class is reduced from 50 minutes over 180 days (9000 minutes total) to 90 minutes over 90 days (8100 minutes). Block scheduling is a concern for the AP program for two reasons: teachers and students lose up to 900 minutes of instructional time together during the course, and teachers are concerned that students who take AP courses during the fall semester under the 4 X 4 plan will forget the material they learned before the examination is administered in May. All teachers expressed the preference that AP courses should be offered all year long or only during the spring semester in the 4 X 4 program to eliminate the possible loss of material by students.[26]

Schools and teachers have addressed the loss of instructional time in several ways. Many schools deal with the loss of instructional time under block scheduling by giving

students assignments to complete over the summer, effectively getting “a jump” on the upcoming school year, or by scheduling after school study sessions, or by simply increasing the homework load. These methods often are used by teachers under the traditional schedule to maximize content exposure to students.[27]

Some schools have modified the block schedule to accommodate AP courses. One modification is to schedule the AP course, such as Biology or Chemistry, to last all year long, in effect doubling the time in class in order maximize content exposure in hopes of improving student achievement. While this method removes the concern over instructional time, the students who take yearlong AP courses lose an opportunity to take another course. Students are able to only earn one credit instead of two. Most students and teachers are willing to lose the additional course because the opportunity to master more of the AP material improves the chance of the student to score a 3 or higher on the examination.[28]

Another modification made to block scheduling is pairing two AP courses, such as AP English Literature and Composition with AP English Language and Composition, so that the students are able to earn two credits. Paired classes allow the instructor to keep the students all year long, and the teacher is able to reinforce the similar expectations of all AP examinations, such as what is expected of students when writing essays, while providing students with content information on two courses. Other AP courses often paired with one another are AP Calculus AB with AP Calculus BC, AP Government and Politics with AP Macroeconomics, and the various foreign language classes like AP French Language with AP French Literature. One interesting variation of pairing classes was found in Texas. South Fork High School pairs AP US History and AP English Language and Composition together and the courses are team taught by a social studies teacher and an English teacher. The school also pairs AP European History with AP English Literature and Composition in the same manner.[29]

One additional possible modification involves the development or identification of companion courses to the AP courses. AP writing seminar classes designed to match a specific AP course are paired with the specific AP course to provide students with two credits and keep the students in the same classroom all year long. This method provides students additional instructional time and allows the teacher to emphasize writing for the AP examination. Some schools also have identified companion courses to extend learning time and allow for two credits. Honors US History is sometimes paired with AP US History to extend the learning time, and the Honors US History course is counted as an elective credit towards graduation.[30]

Modification of the block schedule is not always possible. Establishing yearlong AP courses or paired AP courses will work only if the school staff is large enough. Most small schools cannot offer either of these alternatives because the size of the staff is too limited.

The problem of student retention of content material caused by offering AP courses during the fall under the 4 X 4 schedule could be solved by administering the AP examinations at the end of the fall semester. Nationally, many schools have petitioned the College Board to offer a winter administration of the AP examination, but the College Board is reluctant to do so due to concerns over test security. College Board officials are concerned that they would have to offer two different examinations during the same academic year because students who take the winter examination would be able to tell students who take the same course in the spring what the questions are. Creating two tests raises the concern that one test would be easier than the other and reduces the continuity of the examination during the school year. Most schools have solved this issue by offering most of their AP courses in the spring semester or by offering review sessions during the two to three weeks prior to the May examination administration.[31]

The primary question regarding block scheduling and the AP program is whether block scheduling adversely affects student achievement on the AP examinations. The College Board studied the effects of block scheduling on student achievement in AP Biology, AP Calculus AB, AP US History, and AP English Literature and Composition over several years. By collecting data from the students about which schedule their AP course was taught under, the College sought to determine which type of schedule was optimum for AP courses.[32]

The results differed by course. According to the study, "For AP Biology and AP Calculus AB, the length of class time appears to influence students' grades, with students in longer or extended periods receiving significantly higher grades. More recent instruction (spring versus fall semester block schedule) did not affect grades." But the results for AP US History were different. "In AP US History, longer instructional periods still resulted in higher AP grades. However, more recent instruction (spring) also appears to result in higher grades on the examination." The results for AP English Literature and Composition were different still. "The recency of instruction (spring versus fall) and length of year-long instructional periods did not significantly affect grades" for students taking AP English Literature. Overall, students in courses meeting all year long did receive higher grades than students in semester courses in three of the four courses studied.[33]

The College Board study points out that it is unclear why there are different patterns for the four courses. One possible explanation according to the College Board "may be related to how the course material is learned. Biology and calculus are primarily learned through specific instruction delivered over short periods of time (i.e., one course) while instruction in U.S. history occurs several times over the course of a student's schooling. English literature, like U.S. history, occurs at multiple points in a student's educational career; however, literature lends itself, more than the other courses investigated here, to self-instruction and self-study. Perhaps, course content that is subject to self-instruction is less dependent on the instructional schedule for high performing and motivated students who typically enroll in AP courses."[34]

Another possible explanation for the differences in the findings is related to teacher

adaptation to block scheduling. Block scheduling requires the teacher, regardless of whether the course being taught is an AP course or not, to alter the means of instruction. Teachers must change instructional methods more often during a 90 minute period than in a 50 minute period. Lecture can no longer be the sole basis of instruction if a teacher wants to hold the attention of the student. Adaptation to the block schedule takes time as teachers learn which activities work best under the 90 minute schedule.

There are no hard data for South Carolina schools indicating that block scheduling adversely affects student achievement on AP examinations. Since block scheduling became popular in the mid 1990s, student achievement rates on AP examinations have increased in South Carolina. Whether block scheduling inhibits some students from taking AP courses is a different matter, and one that would be difficult to determine.

Admission to an AP course is another curriculum issue facing South Carolina schools. Not all students can be successful in AP courses or on the AP examinations. The State Department of Education has no guidelines for enrolling students into AP classes, leaving that policy making decision to the individual school districts. In conversations with school district personnel throughout the state, no written admission policy was found which restricted student admission from entering AP classes. In fact, the contrary was found; districts essentially have an open admission policy to AP classes and any student who wishes to take the course is admitted.[35]

An open admission policy does not mean, however, that students are not counseled as to whether it is in their best interest to take an AP course or not. Guidance counselors frequently counsel students not to enter a course for which that student is ill equipped. However, the problem for most schools is not keeping unqualified students with limited skills out of AP classes, it is getting qualified students with appropriate skills to take the AP classes. Interviews with school leaders suggest that many qualified students avoid AP classes because they think the classes require too much work, are too difficult, and/or may damage their grade point average.[36]

A recent study conducted by the United States Department of Education indicates that an open admission policy is best. The study suggests that students who take AP courses in high school, even if they do not earn college credit through the AP class, are more likely to finish college than students who do not take AP courses in high school.[37] Another recent study found that college students who took an AP course in the area in which they decided to major in college earn higher grades in their major than students who did not take an AP course in their major.[38] These reports underscore the importance of a strong AP program statewide, whether all students receive a score of 3 or higher on the AP examination or not. The number of students succeeding in the AP classes should be an equal concern to increasing the number of student taking AP courses.

One important method for increasing student success in AP courses and increasing student participation in the program is providing students with a proper background in grades 7-10 to take AP courses in their junior or senior year. The College Board encourages school districts to develop vertical teaming programs to provide students

with a strong foundation for AP courses. Vertical teaming requires teachers from grades 7-12 to meet and together devise and implement a spiraled curriculum that develops writing, reading, and critical thinking skills in grades 7-10 in support of the AP curriculum. When students are provided with the necessary skills to succeed on the AP examinations in grades 7-10, the skills can then be polished in the AP courses instead of introduced, resulting in more students receiving grades of 3 or higher on the AP examination.[39]

South Carolina's curriculum standards in mathematics, English/language arts, science and social studies all provide for a spiraled curriculum. School districts need to provide teachers in grades 7-12 the opportunity to work together to develop a rigorous outline of the content and instructional methods needed to improve student achievement. A vertical teaming program is available to interested districts from the College Board for a modest cost.

Funding

The appropriation for the AP program in South Carolina came as part of the sales tax increase in 1984. For the fiscal year 1984-85, the legislature appropriated $669,000, which funded 6262 tests at $40.00 per test, with the remainder of the money funding teacher institutes and student materials. The allocation increased to $988,000 in 1985-86, and was increased to $1,250,000 the following year. Beginning with the 1986-87 fiscal year, the appropriation for the AP program became stagnant, remaining the same for four years with the cost of the test increasing steadily from $48.00 in 1987 to $58.00 in 1990. The number of examinations funded by the state increased over the same period.

In 1990-91, the appropriation was increased by $500,000, but the new money was set aside by proviso to help smaller schools offer "singleton" AP classes with enrollments of less than ten. Since smaller high schools had trouble offering even one AP class because of staffing concerns, the new money was designed to provide the needed funding for hiring a teacher for the smaller schools to meet the state regulation of offering at least one AP class each year. The remaining $1,250,000 continued to be divided among teacher institutes, examination fees, and student materials through the 1993-94 fiscal year.

The AP appropriation increased to $1,900,000 in 1994-95, then to $2,000,000 in 1995-96. These increases went not to only offset the increase in AP examination fees and the increase in student participation, but also to fund IB examinations at the same rate as the AP examination fee. IB examination fees are higher than AP examination fees, but the AP appropriation pays for IB examinations only at the amount equal to the AP examination cost. The AP appropriation was increased to $2,089,400 for the 1997-98 fiscal year, and the appropriation has remained at that level since despite an increase in the number of IB and AP students over the last four years and a steady increase in the cost of the examinations. The state should consider whether other programs should be funded from the AP appropriation.

Education Improvement Act AP Appropriation

Fiscal Year	Appropriation	Materials Allocation (Per Student)	Exam Student Allocation (Per Student)	Total AP Payment (Per Student)
1984-85	$669,000		40.00	
1985-86	$988,000			
1986-87	$1,250,000	35.00		
1987-88	$1,250,000	35.00	48.00	83.00
1988-89	$1,250,000	45.00	52.00	97.00
1989-90	$1,250,000	48.00	56.00	96.00
1990-91	$1,750,000*	50.35	58.00	108.35
1991-92	$1,750,000*	51.00	59.00	110.00
1992-93	$1,750,000*	42.00	61.00	103.00
1993-94	$1,750,000*	40.00	64.00	104.00
1994-95	$1,900,000*	43.00	65.00	108.00
1995-96	$2,000,000*	46.76	63.24	110.00
1996-97	$2,000,000*	45.76	64.24	110.00
1997-98	$2,089,400*	44.81	65.19	110.00
1998-99	$2,089,400*	43.84	66.16	110.00
1999-00	$2,089,400*	32.86	67.14	100.00
2000-01	$2,089,400*	51.89	68.11	120.00

**With the start of the FY 90-91 year $500,000* in AP Singleton funds were set aside from the allocation.*

AP appropriations can not be carried over from year to year, hampering the ability of the State Department of Education to offer teacher institutes which cross fiscal years. With school districts starting school earlier (early August), AP institutes need to cross fiscal years to give teachers a period of rest before taking an AP institute and after taking the institute.

At a minimum, the basic appropriation for the AP program is challenging for several reasons. The cost of an individual AP examination continues to rise. The amount of money provided for student materials is insufficient to purchase appropriate college level textbooks for the AP courses. Many AP courses do not have a state adopted textbook, forcing the schools to purchase the books. During 1999-2000, the state allotted $100.00 per student to the school districts to cover the cost of the examination and provide materials. The State Department of Education was able to increase the appropriation for the 2000-2001 school year to $120.00 per student. But with the cost of the AP examination at $68.11 for the year 2001, that still leaves schools with only $51.89 to purchase materials. Most college level textbooks cost in the range of $75-$100. At the present rate, it will take two years for a school to receive enough money to buy a textbook. Yet a school cannot pool the AP money over several years to purchase materials because any unspent AP money at the end of the fiscal year reverts back to the EIA Building Fund.

One alternative to help offset needs is for the state to obtain more money from the federal government. The federal grant program to increase low income student participation in the AP program is one possible source of increased funding.

Summary and Recommendations

The EIA AP initiative is a vital educational program and has achieved numerous successes.

- South Carolina was the first Southeastern state to establish a state funded AP program.
- Thousands of students have profited from the opportunity to earn college credit while in high school at no cost to the student
- The number of students taking AP courses has grown by 380% since 1984.
- The number of AP examinations taken has increased by 478% since 1984.
- In 2000, South Carolina had the highest percentage of public high schools participating in the AP program in the Southeast, and the fourth highest rate in the nation.
- The number of AP courses offered for credit in South Carolina has increased from eight to thirty-two.
- The mean scores for South Carolina students have increased since 1984.
- The percentage of students receiving a 3 or higher on AP examinations has increased since 1984.
- Teachers have received professional development and graduate credit at no cost to the teacher.

Despite these successes, several concerns remain.

- Growth in the number of students taking AP courses and the number of examinations taken has stagnated in recent years.
- Students attending small high schools or attending schools in areas with high incidence of poverty have fewer opportunities to take AP courses than students do in larger high schools or in areas with low poverty.
- The percentage of students receiving 3 or higher on the examinations remains below the national average.
- Scores by South Carolina students on certain examinations, such as AP United States History, are much lower than the state average.
- The gap between the mean scores of African Americans and whites has widened over time instead of decreasing.
- The gap between the mean scores of males and females has widened over time.
- Teachers need additional professional development.
- Students need a stronger background in grades 7-10 to improve student success in AP courses in grades 11-12.

To address these concerns, the following recommendations are made:

- The General Assembly should establish a goal or goals for the AP Program and distribute the goal(s) to all schools and school districts.
- The General Assembly should authorize an incentive program for high schools to increase the number of examinations taken and the number of students participating in the AP Program, especially African American and Hispanic students.
- The State Board of Education should enforce the regulation requiring all public high schools to offer at least one AP course each year.

- Professional development should address strategies to reduce the achievement gaps between African American and white students, and between male and female students.
- The State should consider developing a “refresher” institute program and require all AP endorsed teachers to attend the institute to maintain endorsement.
- Regulations for the endorsement of teachers may need to be altered to take into consideration the content background of teachers and provide for specific content related professional development for AP courses.
- School districts should strengthen instruction and vertical alignment to better prepare students in grades 7-10 to take AP courses.
- The appropriation for the AP program should be structured to address program costs, including instructional materials, professional development, and the costs of the AP examinations.

APPENDIX A

Exam Code	Exam Name
07	US History
13	Art History
14	Studio Art-Drawing
15	Studio Art-General
20	Biology
25	Chemistry
31	Computer Science A
33	Computer Science AB
34	Microeconomics
35	Macroeconomics
36	English Language
37	English Literature
40	Environmental Science
43	European History
48	French Language
51	French Literature
55	German Language
57	US Government & Politics
58	Comparative G & P
59	International English
60	Latin: Vergil
61	Latin: Literature
66	Calculus AB
68	Calculus BC
69	Calculus AB Subscore
75	Music Theory
78	Physics B
80	Physics C (Mechanics)
82	Physics C (E & M)
85	Psychology
87	Spanish Language
89	Spanish Literature
90	Statistics

APPENDIX B

APPENDIX C

1999-2000 Advanced Placement Courses Accepted for Credit at Private Colleges or Universities

Exam Code	Exam Name	Allen	Anderson	Benedict	Bob Jones	Charleston Southern	Claflin	Coker	Columbia International	Columbia	Converse	Erskine	Furman	Limestone	Morris	Newberry	N. Greenville	Presbyterian	Sherman Chiro	Southern Methodist	Southern Wesleyan	Voorhees	Wofford	Clinton Jr.	Columbia Jr.	Spartanburg Methodist
07	US History	•	•	•	§	•	•	•	•	•	•	†	†	ν	•	•	•	•	–		•	•	†	–	•	•
13	Art History	–	–	–	§	•	•	•	•	•	•	•	†	ν	•	•	•	•	–		•	•	†	–	–	•
14	Studio Art-Drawing	–	•	–	♦	•	•	•	–	•	•	–	†	ν	–	•	•	–	–		•	•	†	–	–	•
15	Studio Art-General	–	•	–	♦	•	–	•	–	•	•	–	†	ν	–	•	•	–	–		•	•	†	–	–	•
20	Biology	•	•	•	§	•	•	•	•	•	•	•	†	ν	•	•	•	•	–		•	•	†	–	–	•
25	Chemistry	•	•	•	§	•	•	•	•	•	•	§	†	ν	•	•	•	•	–		•	•	†	–	–	•
31	Computer Science A	–	–	•	§	•	•	•	•	•	•	–	†	ν	•	•	•	•	–		•	•	†	–	•	•
33	Computer Science AB	–	–	•	§	•	–	•	–	•	•	–	†	ν	•	•	•	•	–		•	•	†	–	–	•
34	Microeconomics	•	•	•	§	•	•	•	•	•	•	•	†	ν	•	•	•	•	–		•	•	†	–	•	•
35	Macroeconomics	•	•	•	§	•	•	•	–	•	•	•	†	ν	•	•	•	•	–		•	•	†	–	•	•
36	English Language	•	•	•	§	•	•	•	•	†	•	•	†	ν	•	•	•	–	–		•	•	†	•	•	•
37	English Literature	•	•	–	§	•	•	•	•	†	•	•	†	ν	•	•	•	•	–		•	•	†	–	•	•
40	Environmental Science	–	•	–	§	•	•	Ω	–	–	–	•	†	ν	•	•	•	•	–		•	•	†	–	–	•
43	European History	•	•	•	§	•	–	•	•	•	•	†	†	ν	•	•	•	•	–		•	•	†	–	–	•
48	French Language	•	–	•	♦	•	•	•	•	–	•	§	†	ν	•	•	•	•	–		•	•	†	–	–	•
51	French Literature	•	–	•	♦	•	–	•	–	†	•	§	†	ν	•	•	•	•	–		•	•	†	–	–	•
55	German Language	•	–	•	♦	•	–	•	•	–	•	§	†	ν	•	•	•	•	–		•	•	†	–	–	•
57	US Government & Politics	•	•	–	§	•	•	•	•	•	•	§	†	ν	•	•	•	–	–		•	•	†	–	•	•
58	Comparative G & P	–	–	•	§	•	–	•	–	•	•	–	†	ν	•	•	•	–	–		•	•	†	–	–	–
59	International English	–	–	–	§	•	–	Ω	–	–	–	–	†	ν	–	•	•	–	–		✕	•	–	–	–	–
60	Latin: Vergil	–	–	–	§	–	–	•	•	–	•	–	†	ν	–	•	•	•	–		•	–	†	–	–	–
61	Latin: Literature	–	–	–	§	–	–	•	–	–	–	–	†	ν	–	•	•	•	–		•	–	†	–	–	–
66	Calculus AB	•	•	•	§	•	•	•	•	•	•	•	†	ν	✕	•	•	•	–		•	•	†	–	•	•
68	Calculus BC	–	•	•	§	•	–	•	•	•	•	•	•	ν	•	•	•	•	–		•	•	•	–	–	•
69	Calculus AB Subscore	–	–	•	§	•	–	Ω	–	–	•	–	†	ν	•	•	•	–	–		•	•	†	–	–	–
75	Music Theory	•	§	–	♦	•	•	•	•	•	•	•	†	ν	•	•	•	•	–		•	•	†	–	–	–
78	Physics B	•	–	•	§	•	•	•	•	•	•	§	†	ν	•	•	•	•	–		•	•	†	–	–	•
80	Physics C (Mechanics)	–	–	–	§	•	–	Ω	–	•	•	§	†	ν	•	•	•	•	–		•	–	†	–	–	•
82	Physics C (E & M)	–	–	•	§	•	–	Ω	–	•	•	§	†	ν	•	•	•	•	–		•	•	†	–	–	•
85	Psychology	•	•	•	§	•	–	•	•	•	•	§	†	ν	•	•	•	•	–		•	•	†	–	•	•
87	Spanish Language	•	•	•	♦	•	•	•	•	–	•	§	†	ν	•	•	•	•	–		•	•	†	–	–	•
89	Spanish Literature	•	–	–	♦	•	–	•	–	†	•	§	†	ν	•	•	•	•	–		•	•	†	–	–	•
90	Statistics	–	•	•	§	•	•	Ω	–	•	–	–	†	ν	•	•	•	•	–		•	•	†	–	–	•

LEGEND

- • Score of 3 or Better
- – Does Not Accept
- § With Interview
- ♦ With Local Placement Test
- Ω Currently in Review
- ✕ No Response
- † Score of 4 or Better
- ν With "C" or Better

Southern Methodist did not Participate in the Survey

APPENDIX D

[1] Interviews with school and school district personnel occurred throughout the study as research dictated the need. No specific data was kept on the number of school or school district personnel contacted. Names of schools, schools districts, and individuals have been omitted from the report.
[2] Interviews with school and school district personnel, August –November 2000.
[3] Data from the 2000 examination supplied by Educational Testing Service on South Carolina students was analyzed for correlation between student success rate the number of tests taken by the students over their high school career. Students who took more than one AP course and examination over their high school career were more likely to earn a 3 or higher on the AP examinations than if students took only one course and examination during their high school career. A longitudinal study on this topic needs to be completed to verify the original findings.
[4] National Summary of Results, 1997-2000, College Board. Telephone interviews with personnel from the North Carolina, Texas, and Virginia state departments of education provided the information on their incentive programs.
[5] National Summary of Results, 1985-2000, College Board; interviews with State Department of Education personnel; "What the Penny is Buying," State Department of Education, 1985-2000.
[6] National Summary of Results, 1999-2000.
[7] Interviews with school and school district personnel.
[8] Interviews with teachers and administrators, Northwestern High School, May 2001.
[9] Interview with Ruth Patterson, PACE Program, University of South Carolina.
[10] Interviews with school and school district personnel.
[11] Interviews with State Department of Education personnel.
[12] Interviews with school and school district personnel and interviews with State Department of Education personnel.
[13] Interviews with State Department of Education personnel.
[14] Interview with Sumter School District Two personnel.
[15] *Getting Ready Pays Off: A Report for National College Week.* U.S. Department of Education, October 2000.
[16] Interviews with school and school district personnel.
[17] National Summary of Results, 1997-2000, College Board. Telephone interviews with personnel from the North Carolina, Texas, and Virginia state departments of education provided the information on their incentive programs.
[18] Interviews with AP institute professors.
[19] Data from the 2000 examination supplied by Educational Testing Service on South Carolina students was analyzed for correlation between student success rate the number of tests taken by the students over their high school career. Students who took more than one AP course and examination over their high school career were more likely to earn a 3 or higher on the AP examinations than if students took only one course and examination during their high school career. A longitudinal study on this topic needs to be completed to verify the original findings.
[20] Interviews with AP readers, attendance at AP workshops.
[21] Interviews with State Department of Education personnel.
[22] Interviews with professors of AP institutes.
[23] Interviews with teachers.
[24] Interviews with teachers and administrators.
[25] Interviews with professors of AP institutes.
[26] Interviews with school and school district personnel; interviews with State Department of Education personnel.
[27] Interviews with teachers and administrators.
[28] Interviews with school and school district personnel; interviews with State Department of Education personnel.
[29] David Traill, "Team-Teaching AP History and English," Social Education February 1998, 77-79.
[30] Interviews with school and school district personnel.
[31] Interviews with school personnel; "Block Schedules and Student Performance on AP Examinations," Research Notes, College Board, May 1998.
[32] "Block Schedules", pp. 1-2.
[33] "Block Schedules", p. 9.
[34] "Block Schedules", p. 9.
[35] Interviews with school and school district personnel.
[36] Interviews with school and school district personnel.
[37] *Getting Ready Pays Off: A Report for National College Week.* U.S. Department of Education, October 2000.
[38] Rick Morgan and Behroz Maneckshana, "AP Students in College: An Investigation of Their Course-Taking Patterns and College Majors," Educational Testing Service, April 2000.
[39] *A Guide for AP English Vertical Teams*, College Board, 1996.